

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 11245/53476	<b>FOR FURTHER ACTION</b>	See item 4 below
International application No. PCT/US2004/043482	International filing date ( <i>day/month/year</i> ) 20 December 2004 (20.12.2004)	Priority date ( <i>day/month/year</i> ) 19 December 2003 (19.12.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant IMCLONE SYSTEMS INCORPORATED		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input checked="" type="checkbox"/> | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

<p style="text-align: center;">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report 14 August 2006 (14.08.2006)</p> <p>Authorized officer  <div style="text-align: center;">Simin Baharlou</div></p> <p>e-mail: pt09@wipo.int</p>
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# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

REC'D 24 JUL 2006

WIPO

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## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:  
DEBORAH A. SOMERVILLE  
KENYON & KENYON  
ONE BROADWAY  
NEW YORK, NY 10004

Date of mailing (day/month/year)	20 JUL 2006
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Applicant's or agent's file reference 11245/53476	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/US04/43482	International filing date (day/month/year) 20 December 2004 (20.12.2004)	Priority date (day/month/year) 19 December 2003 (19.12.2003)
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International Patent Classification (IPC) or both national classification and IPC IPC: A61K 38/00( 2006.01) USPC: 514/12
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Applicant IMCLONE SYSTEMS INCORPORATED
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1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Date of completion of this opinion 23 June 2006 (23.06.2006)	Authorized officer <i>Valerie Bell-Harris</i> Daniel C. Garnett, PhD Telephone No: (571) 272 -1600
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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/43482

**Box No. I Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
- ☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
- ☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
- ☐ filed together with the international application in electronic form.
- ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US04/43482

**Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims <u>13, 14, 22-24, 26</u>	YES
	Claims <u>1-9, 11, 12, 15-21, 25</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-26</u>	NO
Industrial applicability (IA)	Claims <u>1-26</u>	YES
	Claims <u>NONE</u>	NO

**2. Citations and explanations:**

Claims 1-9, 11, 12, 15-19, and 25 lack novelty under PCT Article 33(2) as being anticipated by US 20030203844 (Delfani et al) 30 October 2003. The reference teaches methods of treatment of CNS disorders using reagents that modulate the proliferation, migration, differentiation and survival of central nervous system cells (see Abstract). The reagents taught include FGF2 [0338], VEGF (whole document), and neural stem cells propagated ex vivo [0035]. The effect of modulating the migration of neural progenitor cells recited in the instant claims merely reflects a newly discovered inherent property; this outcome would occur whenever the methods taught in the prior art are practiced.

Claims 20, 21, and 25 lack novelty under PCT Article 33(2) as being anticipated by US Patent 6261585, 17 July 2001. The reference teaches incorporation in of VEGF and bFGF into biocompatible polymers for in vivo implantation (column 3, lines 35-50), thereby anticipating claims 20, 21, and 25.

Claim 10 lacks an inventive step under PCT Article 33(3) as being obvious over US 20030203844. If one aims to use undifferentiated stem cells, it would be obvious to pick cells that do not express known markers of differentiation.

Claims 13, 14, 22-24, and 26 lack an inventive step under PCT Article 33(3) as being obvious over US 20030203844 in view of US Patent 626158. As noted, US 20030203844 teaches treatments using VEGF, FGF2, and neural stem cells and US Patent 6261585 teaches the use of these elements in biocompatible matrices. The instant claims recite the obvious combination of these elements.

Claims 1-26 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/43482

**Box No. VI Certain documents cited**

**1. Certain published documents (Rules 43bis.1 and 70.10)**

Application No.  
Patent No.

Publication date  
(day/month/year)

Filing date  
(day/month/year)

Priority date (valid claim)  
(day/month/year)

**2. Non-written disclosures (Rules 43bis.1 and 70.9)**

Kind of non-written disclosure

Date of non-written disclosure  
(day/month/year)

Date of written disclosure referring to  
non-written disclosure  
(day/month/year)